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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,601	07/30/2002	Hsu-Feng Ho	MTKP0018USA	5133
27765	7590	04/24/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			AGUSTIN, PETER VINCENT	
			ART UNIT	PAPER NUMBER
			2627	
DATE MAILED: 04/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.		Applicant(s)	
	10/064,601		HO, HSU-FENG	
	Examiner		Art Unit	
	P. Agustin		2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 and 21 is/are allowed.
- 6) ☒ Claim(s) 12-17 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-17 and 19-21 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-17 & 19-21 are now pending, with claims 1-11 withdrawn from further consideration due to a previously set forth restriction requirement.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 10, 2006 has been entered.

#### ***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Claims 12 & 19 recite "predicting a target frequency of the DPLL signal", which lacks antecedent basis from the specification as originally filed.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 12-17 & 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

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art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 12 & 19 recite “predicting a target frequency of the DPLL signal”, which is not supported by the Applicant’s disclosure as originally filed. The Applicant alleges (see page 9, lines 12-18) that “support for these amendments is found in paragraph [0026] through [0043] of the disclosure” and that “no new matter is introduced”. The Examiner disagrees. The cited sections of the disclosure teach at most: determining a target frequency of a DPLL signal; setting a target frequency depending on a rotational speed of frequency of a spindle, the radius of a new track, and a channel bit length; and determining a target frequency by determining a change in track number and a resulting change in DPLL frequency. There is no disclosure of “predicting a target frequency of the DPLL signal” as recited in the amended claims.

Claims 13-17 are dependent upon claim 12.

6. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 17 recites the limitation “setting an RF equalizer signal and a differential phase detector (DPD) equalizer signal”. There is no disclosure of how this is achieved so as to enable one of ordinary skill in the art to make and use the invention. As noted in the previous Office Actions, there is no mention of what frequencies correspond to RF equalizer signal values or what frequencies correspond to differential phase detector equalizer values, as noted in the previous Office Actions.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 12-15 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu (TW 494400) (see translation) in view of Hayashi et al. (US 6,285,640).

In regard to claim 12, Xu discloses a method for controlling an optical disk drive, the method comprising: monitoring a data phase-locked loop (DPLL) signal (Figure 2, output of element 16); generating a first control signal (VT) based on an eight-to-fourteen modulation (EFM) signal and the DPLL signal; generating the DPLL signal based on the first control signal (note the loop formed by elements 11, 12, 13, 14, 18 & 16 only); predicting a target frequency of the DPLL signal for a target track (note the loop formed by elements 16, 17, 19, 15 & 18); generating a second control signal (RVT(FR)) based on the target frequency; and generating the DPLL signal based on the second control signal (output of element 16 after being processed by elements 17, 19, 15 & 18).

In regard to claim 14, Xu discloses frequency dividing a frequency of the DPLL signal (Figure 2, element 16 is a frequency divider).

In regard to claim 15, Xu discloses setting charge pump currents (performed by element 13) of a frequency detector (12) and a phase detector (11) according to the target frequency.

However, Xu does not explicitly disclose: in regard to claim 12, generating the DPLL signal based on the first control signal **when the optical disk drive is in a non-seek mode** and

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predicting a target frequency of the DPLL signal for a target track **when the optical disk drive is in a seek mode for track seeking**; and in regard to claim 13, detecting when a rotation speed of a spindle of the optical disk drive changes; and generating the DPLL signal based on the second control signal **when the rotation speed of the spindle of the optical disk drive changes**.

Hayashi et al. disclose: in regard to claim 12, generating a DPLL signal based on a first control signal when an optical disk drive is in a non-seek mode (column 3, lines 46-55: “a PLL device in which two control voltages to be input to a VCO circuit are prepared, one control voltage is input to one input voltage to perform conventional control”; column 3, lines 54-55: “normal reproduction mode”) and *using a second control signal* when the optical disk drive is in a seek mode for track seeking (column 3, lines 46-55: “and the other control voltage which changes gradually to follow changes in data rate is input to the other input terminal”; column 3, line 55: “seek mode”); and in regard to claim 13, detecting when a rotation speed of a spindle of the optical disk drive changes (see Figure 4, element 45); and generating the DPLL signal based on the second control signal when the rotation speed of the spindle of the optical disk drive changes (see column 10, lines 35-40).

It would have been obvious to one of ordinary skill in the art at the time of invention by the Applicant to have applied the teachings of Hayashi et al. to the method of Xu, the motivation being to provide a PLL device that satisfies both the conditions required for the VCO circuit in the normal reproduction mode and the seek mode, thereby ensuring compatibility and reliability (column 3, lines 46-55).

Claim 19 has limitations similar to those of claims 12 & 13; thus, it is rejected on the same basis.

9. In regard to claim 16, no indication of patentability has been made in view of the rejection under 35 U.S.C. § 112-1<sup>st</sup> paragraph.

***Allowable Subject Matter***

10. Claims 20 & 21 are allowed over the prior art of record.

11. The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art of record, Xu (TW 494400), fails to teach or suggest: in claim 20, referencing track number information to calculate a target frequency of the DPLL signal for a target track when the optical disk drive is in a seek mode for track seeking; and in claim 21, referencing track number information to calculate a target frequency of the DPLL signal for a target track when the rotation speed of the spindle changes.

***Response to Arguments***

12. Applicant's arguments filed February 10, 2006 have been fully considered but they are not persuasive.

a. In regard to the amendments to claims 12, 16, 17 & 19, the Applicant alleges (see page 9, lines 12-18 and page 10, lines 13-14) that “support for these amendments is found in paragraph [0026] through [0043] of the disclosure” and that “no new matter is introduced”. The Examiner disagrees. The cited sections of the disclosure teach at most: determining a target frequency of a DPLL signal; setting a target frequency depending on a rotational speed of frequency of a spindle, the radius of a new track, and a channel bit length; and determining a target frequency by determining a change in track number and

a resulting change in DPLL frequency. There is no disclosure of “predicting a target frequency of the DPLL signal” as recited in the amended claims. Therefore, the amendment constitutes new matter and the claims are rejected under 35 U.S.C. § 112-1<sup>st</sup> paragraph.

b. In response to Applicant’s comments on page 10, lines 6-14 regarding the rejection of claim 17 under 35 U.S.C. 112 as failing to comply with the enablement requirement: (1) as noted above, the amendment constitutes new matter; and (2) regardless of the amendment, there is still no disclosure of how the claimed “setting an RF equalizer signal and a differential phase detector (DPD) equalizer signal” is achieved so as to enable one of ordinary skill in the art to make and use the invention. As noted in the previous Office Actions, there is no mention of what frequencies correspond to RF equalizer signal values or what frequencies correspond to differential phase detector equalizer values, as noted in the previous Office Actions. Therefore, the rejection is maintained.

c. In response to Applicant’s arguments on page 11 paragraphs 1 & 2 that “the frequency counter...does not predict the target frequency of the target track” and “the frequency control unit does not predict the target frequency of the target track”: (1) as noted above, the amendment constitutes new matter; and (2) in light of insufficient description from the original disclosure of the claimed “predicting a target frequency of the DPLL signal”, this limitations has been interpreted to be the same as “calculating a target frequency of the DPLL signal”, as recited in the original claims. Therefore, the claims remain rejected under 35 U.S.C. § 103 by Xu and Hayashi et al.



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13. In regard to Applicant's arguments on page 12, paragraph 1 that "Xu fails to teach or suggest the claimed feature: referencing track number information to calculate a target frequency of the DPLL signal for a target track", the rejection of claim 16 under 35 U.S.C. § 103 has been withdrawn, and claims 20 & 21 are allowed, rendering this argument moot.

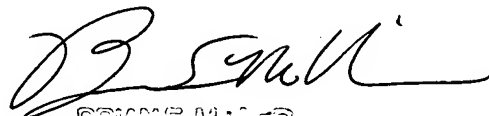
*Conclusion*

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Friday 9:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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